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| APPLICATION NO.                      | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|--------------------------------------|-------------|----------------------|-------------------------|------------------|
| 09/761,743                           | 01/18/2001  | Yuji Sacki           | 520.39527X00            | 6167             |
| 20457                                | 7590        | 08/24/2004           | EXAMINER                |                  |
| ANTONELLI, TERRY, STOUT & KRAUS, LLP |             |                      | CHANG, RICHARD          |                  |
| 1300 NORTH SEVENTEENTH STREET        |             |                      | ART UNIT                | PAPER NUMBER     |
| SUITE 1800                           |             |                      |                         | 2663             |
| ARLINGTON, VA 22209-9889             |             |                      | DATE MAILED: 08/24/2004 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                           |                  |
|------------------------------|---------------------------|------------------|
| <b>Office Action Summary</b> | Application No.           | Applicant(s)     |
|                              | 09/761,743                | SAEKI ET AL.     |
|                              | Examiner<br>Richard Chang | Art Unit<br>2663 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 March 2001.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) \_\_\_\_\_ is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4, 6, 8 and 9 is/are rejected.
- 7) Claim(s) 5 and 7 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 January 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/01/2001.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Drawings***

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because

- a) In Fig. 3, reference text "200[1,L, z]" above reference block 21-1 is mistyped, it should be corrected as "200[L, 1,z]" to be consistent with X-axis,
- b) In Fig. 11, reference texts "21B-1" and "21A-1" at the bottom of the drawing are misplaced; these should be corrected by interchanging their positions. Same corrections are required for reference texts "21B-M" and "21A-M".

The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 recites the limitation "... according to claim 2, wherein the interface conversion means..." in lines 12-13, page 46. There is insufficient antecedent basis for this limitation in claim 4.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US patent No. 5,517,619 ("Muramatsu et al").

Regarding claims 2 and 6, Muramatsu et al teach a three dimensional network interconnection scheme of processor elements of a parallel computer (A multidimensional crossbar network in which ... a plurality of crossbar switches) comprising of the first dimensional coordinate transforming crossbar switch 9-1 (in X-axis), the second dimensional coordinate transforming crossbar switch 9-2 (in Y-axis) and the third dimensional coordinate transforming crossbar switch 9-3 (in Z-axis) wherein a relaying crossbar switch 14-1 for relaying operation of transferring a communication packet from one input-output port/buffer to the next buffer/input-output is provide to perform the packet communication between all the three dimensional coordinate transforming crossbar switches within all three dimensional axes at every independent coordinate point (wherein a switching device connected to first and second ... third crossbar switches; (Fig. 8, Col 11, line 16 to Col. 13, line 4).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 5,517,619 ("Muramatsu et al") in view of U.S. Patent No. 5,323,386 ("Wiher et al").

Regarding claim 1, 3, and 8-9, as described in previous action item 5, Muramatsu et al disclose substantially all the claimed invention but did not disclose expressly the particular application involving an interface for performing packet communication by a light signal with any of the crossbar switches is performed.

Wiher et al teach an expandable multistaged high speed serial data switch networks wherein all external high-speed interconnects can be made over fiber optic cables 220 that go to the input and output switches 204', 208' collocated with the remote interfaces 222 by keeping all the electrical signals within the local ports (interface conversion for performing packet communication by a light signal with any of the crossbar switches is performed) (Fig. 9, Col 5, line 52 to Col. 6, line 56).

A person of ordinary skill in the art would have been motivated to employ Wiher et al in Muramatsu et al in order to obtain a multidimensional crossbar network and parallel computer system and to take advantage of interconnecting all the external high-

speed over fiber optic cables by keeping all the electrical signals within the local ports in claims 1, 3 and 8-9.

The suggestion/motivation to do so would have been to accommodate a multidimensional crossbar network and parallel computer system and to take advantage of interconnecting all the external high-speed over fiber optic cables by keeping all the electrical signals within the local ports. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Wiher et al with Muramatsu et al to obtain the inventions specified in claims 1, 3 and 8-9.

***Allowable Subject Matter***

8. Claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is 703-605-4398. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Chang  
Patent Examiner  
Art Unit 2663

*RKC*  
rkc

  
KENNETH VANDERPUYE  
PRIMARY EXAMINER